

1/2 029 UNCLASSIFIED PROCESSING DATE--02OCT70
TITLE--THE RELATION BETWEEN VASCULAR FRAGILITY AND THE STATE OF SKIN
MUCOPOLYSACCHARIDES -U-
AUTHOR-(04)-OYVIN, I.A., OYVIN, V.I., TOKAREV, O.YU., VOLODIN, V.M.
COUNTRY OF INFO--USSR
SOURCE--BYULLETEN' EKSPERIMENTAL'NOY BIOLOGII I MEDITSINY, 1970, VOL 69,
NR 4, PP 55-57
DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--RABBIT, GUINEA PIG, RAT, SACCHARIDE, BLOOD VESSEL, HEMORRHAGE,
RADIATION BIOLOGIC EFFECT

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1988/1588

STEP NO--UR/0219/70/059/004/0055/0057

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PROCESSING DATE--02OCT70

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CIRC ACCESSION NO--AP0106334
ABSTRACT/EXTRACT--(U) GP-0-

ABSTRACT. IN INVESTIGATIONS ON HUMAN BEINGS, RABBITS, GUINEA PIGS AND RATS THE AUTHORS SHOW THAT INTRADERMAL ADMINISTRATION OF HYALURONIDASE DOES NOT REDUCE THE VASCULAR RESISTANCE OF THE SKIN NOTWITHSTANDING THE OBVIOUS RAREFACTION AND REDUCTION OF THE VISCOSITY OF MUCOPOLYSACCHARIDES. THESE DATA POINT TO THE NECESSITY OF CRITICAL APPROACH TO THE CONCEPTS ON THE ROLE OF MUCOPOLYSACCHARIDES IN MAINTENANCE OF THE MECHANICAL RESISTANCE OF VESSELS AND DEPOLYMERIZATION OF SKIN MUCOPOLYSACCHARIDES, AS ONE OF THE CAUSES OF THE ORIGIN OF HEMORRHAGES, IN PARTICULAR OF RADIATION ORIGIN.

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COUNTRY OF INFO--USSR
SOURCE--BYULLETEN' EKSPERIMENTAL'NOY BIOLOGII I MEDITSINY, 1970, VOL 69,
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CONTROL MARKING--NO RESTRICTIONS

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CIRC ACCESSION NO--AP0106334

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. IN INVESTIGATIONS ON HUMAN BEINGS, RABBITS, GUINEA PIGS AND RATS THE AUTHORS SHOW THAT INTRADERMAL ADMINISTRATION OF HYALURONIDASE DOES NOT REDUCE THE VASCULAR RESISTANCE OF THE SKIN NOTWITHSTANDING THE OBVIOUS RAREFACTION AND REDUCTION OF THE VISCOSITY OF MUCOPOLYSACCHARIDES. THESE DATA POINT TO THE NECESSITY OF CRITICAL APPROACH TO THE CONCEPTS ON THE ROLE OF MUCOPOLYSACCHARIDES IN MAINTENANCE OF THE MECHANICAL RESISTANCE OF VESSELS AND DEPOLYMERIZATION OF SKIN MUCOPOLYSACCHARIDES, AS ONE OF THE CAUSES OF THE ORIGIN OF HEMORRHAGES, IN PARTICULAR OF RADIATION ORIGIN.

UNCLASSIFIED

UDC 632.954

USSR

DEVOCHKIN, F. A., SOKOLOVA, N. P., and OZDOYEV, B. A.,

"The Influence of Herbicides on the Anatomic Structure of the Husks of Onions"

Moscow, Khimiya v Sel'skom Khozyastve, Vol 10, No 5, 1972, pp 45-48

Abstract: The influence of various doses of Phaloran and dacthal on cell structure in onions was studied in order to use the data in determining optimal dosages without damage to the cultivated crop. The experiment took place on the Mikhailovskoye education farm on onion cultures of the Timiryazevskiy type. Phaloran was applied in dosages of 8 and 10 kg/ha, the dacthal in dosages of 15 and 20 kg/ha. Various plots were treated with and without a peat mulch, which when used had a thickness of 1.5 cm. The phaloran plots were treated upon the appearance of weed seed leaves; the dacthal plots 2 days after plantings of onion seeds. After harvesting, the variously treated onions and controls were preserved, then thoroughly examined under a microscope. In the treated onions there was apparently more cell division but the cells were smaller, and this phenomenon was in direct proportion to the herbicide dosage. Apparently also the peat mulch adsorbed some of the herbicide, thus lessening its effect on the onion and

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USSR

DEVOCHKIN, F. A., et al., Khimiya v Sel'skom Khozyastve, Vol 10, No 5, 1972, pp 45-48

increasing its toxicity for weeds. Cells of the outer husks underwent greater changes, while the herbicides had a weakened effect by the time the inner husks began to grow. Morphologic-anatomic analysis seems to offer the possibility of determining optimal herbicide dosages with minimal damage to cultivated crops.

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Organ and Tissue Transplantation

UDC 612.6.054.017.4

3

USSR

SVET-MOLDAVSKIY, G. Ya., SHAGIYAN, G. Sh., MKHEIDZE, D. M., LITOVCHENKO, T. A.,
OZERETSKOVSKAYA, N. N., KADAGIDZE, Z. G., and CHERNYAKHOVSKAYA, I. Yu., Institute
of Experimental and Clinical Oncology, Academy of Medical Sciences USSR, Moscow
(Presented by Academician V. V. Parin)

"Inhibition of Transplantation Immunity in Mice Infected With *Trichinella spiralis*"
Moscow, Doklady Akademii Nauk SSSR, Vol 190, No 4, Feb 70, pp 999-1000

Abstract: In this study the authors attempted to get experimental support for the theory proposed by Svet-Moldavskiy that helminths produce substances which drastically inhibit the immunity of the host. Experiments were based on skin transplants. It was determined that in mice infected with *Trichinella spiralis*, the allogenic skin transplant survived much longer, and the detachment of necrotic sections occurred much later than in controls.

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1/2 027 UNCLASSIFIED PROCESSING DATE--09OCT70
TITLE--ON THE MECHANISM OF GUNSHOT CRANIOCEREBRAL INJURIES -U-
AUTHOR--(04)-ALEKSANDROV, L.N., DYSKIN, YE.A., OZERETSKOVSKIY, L.S.,
ALEKSEYEV, A.V.
COUNTRY OF INFO--USSR
SOURCE--VESTNIK KHIRURGII IMENI I. I. GREKOVA, 1970, VOL 104, NR 5, PP
81-85
DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--GUNSHOT WOUND, CEREBRUM, RADIOLOGY, MEDICAL EXPERIMENT

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1990/0583

STEP NO--UR/C589/70/104/005/0081/0085

CIRC ACCESSION NO--AP0108798

UNCLASSIFIED

2/2 027

UNCLASSIFIED

PROCESSING DATE--09OCT70

CIRC ACCESSION NO--AP0108798

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. IN THE PAPER THE RESULTS OF EXPERIMENTS ON CADAVERS AND ANIMALS TO THE END OF STUDYING CRANIOCEREBRAL CHANGES DURING GUNSHOT INJURIES ARE REPORTED. THE HIGH SPEED FILMING AND IMPULSE ROENTGENOGRAPHY WERE EMPLOYED. THE DEVELOPMENT OF A TEMPORARY PULSATING CAVITY AND DISPLACEMENT OF AN ORGAN AFTER BULLET PENETRATING IT ARE DESCRIBED. KAFEDRY VOYENNO POLEVVOY KHIRURGII AND KAFEDRY NORMAL'NOY ANATOMII VOYENNO MEDITSINSKOY ORDENA LENINA KRASNOZNAMEENNOY AKADEMII IM. S. M. KIROVA.

UNCLASSIFIED

UDC 615.372:576.851.49].07

USSR

SHAPIRO, N. I., VASIL'YEVA, T. G., MOSKVICHEVA, I. V., DUDKINA, M. I.,
KRUGLIKHINA, Z. M., SAZONETS, G. I., OZERETSKOVSKIY, N. A., BALAYAN, V. D.,
and KOVAL'SKAYA, S. Ya., Leningrad Institute of Vaccines and Sera and State
Control Institute of Medical Biological Preparations imeni Tarasevich, Moscow

"Molecular Heterogeneity of Endotoxins Extracted From the Typhoid-Paratyphoid
Group of Bacilli. Report II. Antigenic Structure and Biological Activity of
High and Low-Molecular-Weight Fractions"

Moscow, Zhurnal Mikrobiologii, Epidemiologii i Immunobiologii, No 11, 1971,
pp 35-39

Abstract: By means of sepharose 2B columns, endotoxin extracts from typhoid
(4446) and paratyphoid B (50602) bacilli can be separated into a high-molecular-
weight and a low-molecular-weight fraction. Components of the latter fraction
retain some serological specificity but are nontoxic, exert a low protective
activity, and display no stressor activity. On the other hand, components of
the high-molecular-weight fraction have a full antigenic structure, are highly
immunogenic and toxic, and display pronounced stressor activity. The high-
molecular-weight fraction is the carrier of the biological properties of
typhoid and paratyphoid endotoxins.

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USSR

BASKINA, N. F., Scientific Worker at the Neurophysiological Laboratory of the Psychoneurological Institute imeni V. M. Bekhterev, and ~~XXXXXXXXXXXX~~ OZERNAYA, Ye.,
Sotsialisticheskaya Industriya correspondent

"Silver Crowns"

Moscow, Sotsialisticheskaya Industriya, 12 Mar 72, p 4

Translation: Have you ever seen an ordinary cat wearing a splendid "royal crown"? No? Then let us go to the neurophysiological laboratory of the Psychoneurological Institute imeni V. M. Bekhterev.

"Are you surprised at these 'royal cats'?" Senior scientific worker at the laboratory, Nina Fedorovna Baskina, asked, smiling. "They are wearing crowns in order to serve science."

Nina Fedorovna took Murat in her hands and put him into a glass box. The cat underwent this procedure without a murmur. After 20 seconds, however, he suddenly became uneasy, jumped from his place, his hair stood up, his tail curled and fluffed up like that of a squirrel, his eyes began to sparkle like lightning, he tensed up and began to dash furiously around the chamber. In another 20 seconds Murat, as though ashamed of his outburst, calmed down.

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USSR

BASKINA, N. F., and OZERNAYA, Ye., Sotsialisticheskaya Industriya, 12 Mar 72,
p 4

Question: What happened to the cat"

Answer: Every brain cell is a tiny radio station, which can receive any signals. Depending on the brain region to which a stimulus is sent and on the force with which it is sent it is possible to make a starving cat turn away from food, and a cat that is full, devour it, and it is possible to produce fear or a fit of anger.

Is it possible by means of an external effect on specific brain sections to produce an aversion to harmful habits, for example, to alcohol? We set this task for ourselves.

A department for patients suffering from a psychic disorder due to alcoholism was organized in the institute several years ago. As is well known, alcohol, like other narcotics, is among the strongest toxins. It quickly enters the blood and easily penetrates the cells. Its frequent consumption leads to a complete loss of health. The workers at the N. F. Baskin and L. D. Lobastov

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BASKINA, N. F., and OZERNAYA, Ye., Sotsialisticheskaya Industriya, 12 Mar 72,
p 4

Laboratory set themselves the goal of finding out the root of the evil and the way to fight it. On the basis of a study of the bioelectrical activity of the brain in patients suffering from chronic alcoholism it was assumed that, in addition to disturbances in the cerebral cortex, there are changes in the functions of deep brain structures. The process of formation of chronic alcoholism had to be observed. Cats were taken for these experiments.

Question: Why precisely these animals?

Answer: There are many reasons. First of all, because cats have an aversion to alcohol without preliminary habituation. (Mice, for example, find nothing unnatural in alcohol). Moreover, there are improved anatomical atlases of the cat's head, and they make it possible to accurately affect the strictly determined brain sections. For this purpose tiny antennas, which form a unique crown, are put on the animal's head. They are made of silver and they make it possible to record the electrical potentials of the brain and to affect the functional state of these brain sections. Thus, we have obtained a record of the electrical activity of a normal animal and only after this we have begun to create the alcohol model.

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USSR

BASKINA, N. F., and OZERNAYA, Ye., Sotsialisticheskaya Industriya, 12 Mar 72,
p 4

Question: You mean to intoxicate cats?

Answer: Yes, in order to obtain in animals the various stages of alcoholism that are observed in man. When given a free choice between water and alcohol, cats drink only water. They had to be accustomed to alcohol. Instead of water we began to give them a 10% solution of ethyl alcohol. Only once in 5 days the cat was offered a choice between water and alcohol. During the first 2 months the animals drank only water. After 2 months they chose alcohol. We gradually increased the alcohol solution up to 20% and gave the cat the possibility of choosing between water and 10% and 20% solutions of alcohol. The animal correctly found and drank the strongest solution. Thus he became an alcoholic. We studied the electrical phenomena in the brain recorded on an electroencephalograph, i.e., a special instrument, and found that, when certain brain sections were stimulated, the cat rushed to drink alcohol without preliminary training.

Question: Did you find that, when other brain sections were stimulated, the cat ran away from alcohol?

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BASKINA, N. F., and OZERNAYA, Ye., Sotsialisticheskaya Industriya, 12 Mar 72,
p 4

Answer: We found that, when certain brain sections of cats which were hopeless alcoholics were affected, instead of an intensified craving for alcohol, these cats manifested a sharp aversion to it.

Question: When did such a negative reaction to alcohol occur?

Answer: An impulse sent to a cat for 20 seconds produces an aversion to alcohol in 1 or 2 days. A complete course of treatment lasts several sessions.

Question: What are your plans?

Answer: Naturally, these experiments are not designed to have direct application to the treatment of humans. We do not intend to adorn the heads of drunkards with "silver crowns." It is a matter of finding drugs which would replace electrodes, but act upon specific systems in the brain. Luckily, these systems have been found. The search for drugs requires time.

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1/2 016 UNCLASSIFIED PROCESSING DATE--27NOV70
TITLE--N GALAXIES AS A METAGALACTIC POPULATION -U-
AUTHOR--(02)-KOMBERG, B.V., OZERNOY, L.M.
COUNTRY OF INFO--USSR
SOURCE--ASTROPHYS. SPACE SCI. (NETHERLANDS), VOL 7, NO. 1, P. 31-53 (APRIL 1970)
DATE PUBLISHED---APR70
SUBJECT AREAS--ASTRONOMY, ASTROPHYSICS
TOPIC TAGS--GALAXY, METAGALAXY, RADIO BRIGHTNESS, OPTIC BRIGHTNESS
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--3007/0550 STEP NO--NE/0000/70/007/001/0031/0053
CIRC ACCESSION NO--AP0136013

UNCLASSIFIED

2/2 016 UNCLASSIFIED PROCESSING DATE--27NOV70
 CIRC ACCESSION NO--AP0136013
 ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. OPTICAL AND RADIO DATA ABOUT N GALAXIES (NG) AS KNOWN AT PRESENT ARE SUMMARISED AND COMPARED WITH THE CORRESPONDING DATA ABOUT SEYFERT GALAXIES (SYG), BLUE COMPACT GALAXIES (BCG) AND QUASISTELLAR OBJECTS (QSG AND QSS). INFORMATION ABOUT NORMAL GALAXIES AND HARO AND MARKARYAN OBJECTS IS ALSO UTILIZED. THE LUMINOSITY FUNCTIONS OF DIFFERENT SOURCES IN THE OPTICAL AND RADIO RANGES ARE CONSTRUCTED, BASED ON THE OBSERVATIONAL FACTS. ALONG WITH SOME GENERAL PROPERTIES OF NG AND SYG, BCG, QSS AND QSG, A NUMBER OF DIFFERENCES BETWEEN THESE OBJECTS ARE NOTED. IN PARTICULAR UBV COLOURS OF NG AND SYG CHANGE INSIDE RING DIAPHRAGMS FOR VARIOUS DIAPHRAGM RADII IN QUITE DIFFERENT MANNERS. IT IS CONCLUDED THAT N GALAXIES ARE NEIGHTE DISTANT SYG NOR QSS AT SMALL DISTANCES AND THEREFORE RELATIVELY WEAK, BUT ARE THE REPRESENTATIVES OF A DIFFERENT METAGALACTIC POPULATION. ARGUMENTS ABOUT THE EXISTENTS OF STARS IN N GALAXIES AS WELL AS A CENTRAL SOURCE OF NONSTELLAR NATURE ARE DISCUSSED. FACILITY: USSR ACAD. SCI., MOSCOW.

UNCLASSIFIED

1/2 018 UNCLASSIFIED PROCESSING DATE--23OCT70
TITLE--ACCRETION OF THE CLOUDS OF THE INTERGALACTIC GAS BY GALAXIES AND
THE QUASAR LIKE PHENOMENA -U-
AUTHOR--OZERNOY, L.M.
COUNTRY OF INFO--USSR
SOURCE--ASTRONOMICHESKII ZHURNAL, VOL - 47, NO - 2, 1970, P. 265-270
DATE PUBLISHED-----70
SUBJECT AREAS--ASTRONOMY, ASTROPHYSICS
TOPIC TAGS--GALAXY, NUCLEUS, INTERSTELLAR MATTER, CONDENSATION REACTION,
ASTROPHYSICS
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--2000/1473 STEP NO--UR/0033/70/047/002/0265/0270
CIRC ACCESSION NO--AP0125101
UNCLASSIFIED

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UNCLASSIFIED

PROCESSING DATE--2000CT70

CIRC ACCESSION NO--AP0125101

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THEORETICAL DEMONSTRATION OF THE FACT THAT THE CONDENSATION RATES OF THE INTERGALACTIC GAS IN GALACTIC NUCLEI SHOULD INCREASE ALONG AN EXTENDED HUBBLE SEQUENCE OF GALAXIES. IT IS ALSO MAINTAINED THAT THE RADIATIVE PRESSURE AND THE PRESSURE OF THE RELATIVISTIC PARTICLES CREATED BY THE PLASMA NUCLEUS LIMIT THE FLUX OF THE ACCRETED MASS INTO THE NUCLEI. IT IS THEORIZED THAT THE ACCRETION OF THE INTERGALACTIC GAS MAY LEAD TO A REPEATED REPRODUCTION OF PLASMA NUCLEI IN GALACTIC NUCLEI ESPECIALLY WHEN THE INTERGALACTIC GAS RESOURCES ARE DEPLETED. FACILITY: AKADEMIIA NAUK SSSR, FIZICHESKII INSTITUT, MOSCOW, USSR.

UNCLASSIFIED

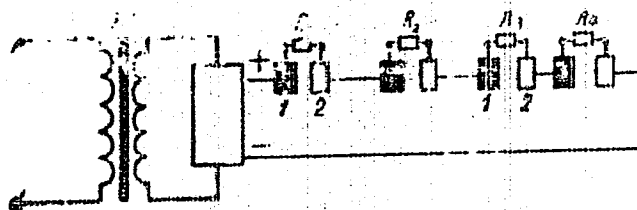
AA0038346

Ozernoy, V.G.

UR 0482

Soviet Inventions Illustrated, Section I Chemical, Derwent, 3-70

237521 ELECTROCHEMICAL MACHINING of several parts simultaneously involves coupling each pair of electrodes (part 1 and tool electrode 2) in series to the power source TP. If their areas are unequal, the voltage is levelled out by coupling parallel to the pairs shunting resistances $R_1, 2, 3, 4$ and these serve to level out the current densities and provide the accurate finish sought. 27.3.67. as 1144205/25-28. OZERNOI, V.G. et al. (2.7.69.) Bul. / 2.2.69. Class 48a. Int.Cl. C23b.



19731464

AA0038346

AUTHORS: Ozernoy, V. G.; Danilov, M. A. and
Martynov, V. I.

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19731465

USSR

YEMEL'YANOV, S. V., DUDIN, Ye. B., DARICHEV, O. I., MALEVICH, A. A.,
NAPPEL'BAUM, E. L., OZERNOY, V. M.

"Preparation and Making of Decisions in Organizing Control Systems"

Tekhn. Kibernetika. 1969. (Itogi Nauchki i Tekhn) [Engineering Cybernetics, 1969 (Results of Science and Technology), Moscow, 1971, pp 89-184 (Translated from Referativnyy Zhurnal, Kibernetika, No 2, 1972, Abstract No 2 V496 by M. Kazakova).

Translation: This work is a review dedicated to certain problems of the science of control, related to the preparation and making of decisions in organizing control systems. The problem of utilization of expert information, the structural problems of the structure of organization systems and certain procedures for decision making are also studied. The article consists of 5 sections, divided into points, each of which has its own bibliography.

1. Decision making. 1.1. General characteristics of problems of decision making. 1.2. Applications of the theory of usefulness for decision making under conditions of uncertainty and risk. 1.3. Decision making with a vector criterion. 1.4. Collective decisions. 1.5. Decision making in organizational systems (103 Biblio. Refs.). 2. Man-machine decision-making procedures (25 Biblio. Refs.). 3. Application of cost-effectiveness analysis
1/2

JSSR

YEMEL'YANOV, S. V., DUDIN, Ye. B., DARICHEV, O. I., MALEVICH, A. A.,
NAPPEL'BAUM, E. L., OZERNOY, V. M., Tekhn. Kibernetika. 1969. (Itogi
Nauchki i Tekhn), Moscow, 1971, pp 89-184.

for decision making in one class of systems (7 Biblio. Refs). 4. Methods of
production of expert information during preparation and making of decisions.
4.1. Collection and generalization of expert conclusions using the DELFI
method. 4.2. The method of V. M. Glushkov. 4.3. The method of rank corre-
lation (10 Biblio. Refs). 5. Some mathematical models of organizational
systems (34 Biblio. Refs.).

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USSR

UDC 62-50

MAKAROV, I. M., OZERNOY, V. M., and YASTREBOV, A. P. (Moscow)

"Acceptance of a Solution in Selecting a Variant of a Complex Automatic Control System"

Moscow, Avtomatika i Telemekhanika, No 3, 1971, pp 84-90.

Abstract: A methodology is proposed for the acceptance of an alternative solution in the selection of the most preferred variant of an automatic system. The methodology is based on the theory of additive utility. The procedure is demonstrated. This involved the development of five types of automatic control systems by three different organizations: 1) linear automatic control system, 2) self-tuning automatic control system with stability boundary control, 3) self-tuning automatic control system with frequency characteristic control, 4) automatic control system with variable structure, and 5) relay-type automatic control system. A table of utility function values is given for each alternate solution. However, since the difference between no. 2 and 4 comprised only five percent of the total scale of utility, the authors conclude that additional research on the two systems is necessary. Subsequent experimental research resulted in the selection of no. 4. The original article has three figures, nine tables, five formulas, and three bibliographic entries.

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USSR

UDC 62-50

MAKAROV, I.M., OZERNOY, V.M. and YASTREBOV, A.P., Moscow

"Selection of Principle for Construction of Complex Automatic Control System
Based on Expert Evaluations"

Moscow, Avtomatika i Telemekhanika, No 1, 1971, pp 128-137

Abstract: A method is described for using a group of experts to select the most preferable principle for the construction of a complex automatic control system during the planning process. An example of the application of the method in the study of a complex system is presented. The method consists of rank correlation, in which each expert ranks alternative solutions on the basis of all characteristics according to his own preferences. Formulas are presented for the total evaluation of each version.

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Acc. Nr: APC054296

Ref. Code: UR 9115

PRIMARY SOURCE: Ortopediya, Travmatologiya i Protezirovaniye,
1970, Nr 2 , pp 19-23

OPERATIVE MANAGEMENT OF PATIENTS WITH ARTHROSIS
DEFORMANS OF BOTH HIP JOINTS

A. Kh. Ozerov, and S. P. Tvardovskaya

Arthrosis deformans of both hip joints in association with congenital dysplasia was observed in 62.2% of all the bilateral lesions. The osteotomy of Pauwels' type with a three-flanged nail fixation has been employed in changes as a result of congenital dysplasia of I, II and sometimes III degree, in presence of one third of range of motion. Eleven patients underwent osteotomy of one hip and four patients of both hips. This was followed by loss or decrease of pains in all of them, the range of motion improved or remained the same, amelioration of the roentgenographic indices ensued. The reconstructive-rehabilitation operation on one joint and osteotomy or arthrodesis on the other (10 patients) have been used in marked limitation of function. After osteotomies, a good result was achieved in 13 and a satisfactory in 2 patients. After the reconstructive-rehabilitation operation the result was judged good in 5 and satisfactory in 5 patients. In arthrosis deformans of both hip joints of infectious and uncertain genesis, joint plasty resulted in development of painful syndrome and rigidity.

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USSR

UDC 621.357.7:669.38

CAVRILOVA, N. YA., LITVISHKO, N. P., OZEROV, A. M., Volograd Institute of
Municipal Economy Engineers

"Electrodeposition of Copper-Nickel Alloy by Pulse Electrolysis"

Moscow, Zashchita Metallov, No 4, 1972, pp 490-492.

Abstract: A comparative study is performed of electrodeposition of Cu-Ni alloy from pyrophosphate electrolytes by pulsating and constant current. Up to $Q=10$, the permissible current density remains practically unchanged with increasing frequency; with values of Q between 10 and 100, permissible current density decreases with increasing frequency. The duty factor of the pulses has the greatest influence on the process of electrocrystallization of the alloy. Pulsed electrolysis allows a significant intensification of the process of deposition of the alloy. The yield of alloy per current is significantly greater with low duty factors (1.1-2) than when DC is used. The higher the frequency, the greater the yield per current in this case. As duty factor Q increases, the content of nickel in the alloy increases, most sharply between 1.1 and 4. Pulsed electrolysis inhibits electrocrystallization of copper more sharply than nickel, leading to enrichment of the alloy with nickel.

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USSR

UDC 621.357.7

GAVRILOVA, N. YA., and OZEROV, A. M., Volgograd Institute of Municipal Service Engineers

"Electrodeposition of Copper-Nickel Alloy"

Moscow, Zashchita Metallov, Vol 8, No 3, May-Jun 72, pp 342-344

Abstract: Electrolytic copper-nickel alloys with high corrosion resistance and an attractive appearance can be obtained from pyrophosphate electrolytes. The authors investigated the possibility of increasing the effective current density for two electrolytes suggested by P. S. TITOV (electrolytes No 1 and No 2) and for an electrolyte developed by the authors (electrolyte No 3) containing less scarce nickel (composition, g/l: $50K_6Cu(P_2O_7)_2 + 50K_6Ni(P_2O_7)_2 + 66K_4P_2O_7 \cdot 3H_2O + 25NaC_4H_4O_6$). Gram-equivalent ratio $\frac{Cu}{Cu + Ni} = 0.504$, pH 9.3. Total copper and nickel concentration 0.944 g-equiv/l. An alloy containing ~8 percent Ni can be obtained from this electrolyte. The introduction of $NaNO_3$ into electrolytes No 1 and 2 permits a significant increase in the

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USSR

GAVRILOVA, N. YA., and OZEROV, A. M., Zashchita Metallov, Vol 8, No 3, May-Jun 72, pp 342-344

effective current density. The introduction of NaNO_3 into electrolyte No 3 likewise increases the upper current density limit, permissible for obtaining good-quality coatings, especially at a concentration of 15-20 g/l.

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USSR

UDC: 536.46:533.6

OZEROV, E.S. and YURINOV, A.A.

"Vapor-Phase Combustion of Metal Particle in Presence of Hydrogen"

Odessa, 11-ya Vses. Konf. po Vopr. Ispareniya, Goreniya i Gaz, Dinamiki Dispersn. Sistem, 1972 (11-th All-Union Conference on Problems of Evaporation, Combustion and Gas Dynamics of Dispersion Systems, 1972), 1972, pp 28-29 (from Referativnyy Zhurnal-Mekhanika, 1973, Abstract No 2B963)

Translation: It is established by experiment that in the presence of free hydrogen the speed of combustion increases with its concentration. This fact cannot be explained without taking into account the effect of hydrogen on the heat transfer coefficients. The calculation method assumes that the metal vapors burn-out completely on the spherical surface and that the metal vapor and steam contents there are null. The oxide formed by combustion is either completely condensed and remains on the surface of combustion or is not condensed at all, but in either case the latent heat of condensation is emitted during the oxidation reaction. The mass transfer equation contains the mutual diffusion coefficients of all possible pairs of components, and it turns out that the total flow is appreciably affected by the hydrogen content.

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USSR

OZEROV, E. S. and YURINOV, A. A., 11-ya Vses. Konf. po Vopr. Ispareniya, Gorennya i Gaz. Dinamiki Dispersn. Sistem, 1972

The design relations between the combustion time and contents of hydrogen and steam agree qualitatively and are close quantitatively with the experimental results for magnesium particles burning in the mixture of steam with nitrogen and hydrogen. These results form the basis for discussion of the possibility of improving the accuracy of the calculation methods.

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USSR

UDC: 536.46:533.6

ZOLOTAR', E.A. and OZEROV, E.S.

"On Calculation of Ignition and Combustion of Boron Particles"

Odessa, 11-ya Vses. Conf. po Vopr. Ispareniya, Goreniya i Gaz. Dinamiki Dispersn. Sistem, 1972 (11-th All-Union Conference on Problems of Evaporation, Combustion and Gas Dynamics of Dispersion Systems, 1972), 1972, pp 27-28 (from Referativnyy Zhurnal-Mekhanika, 1973; Abstract No 2B 962)

Translation: The problem is solved on preheating and ignition of boron particles suddenly introduced into an oxidizing gas medium. It is assumed that the particle is not oxidized prior to reaching the melting temperature, and after melting of the oxide the particle is oxidized with a speed depending on the diffusion resistance of the oxide film. The equation of oxide mass balance takes into account its evaporation; the speed of evaporation is calculated on the assumptions of quasistationary transfer of process to the reduced film, phase equilibrium of oxide on the surface of the particle and absence of oxide vapor in the surrounding medium. The particle is considered to be ignited if there

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- USSR

ZOLOTAR', E. A. and OZEROV, E. S., 11-ya Vses. Conf. po Vopr. Ispareniya, Gorennya i Gaz. Dinamiki Dispersn. Sistem, 1972

is a maximum on the curve of film thickness versus time with increasing temperature of the particle, it is considered to be not ignited if there is a maximum on the curve of particle temperature versus time with increasing film thickness. The design limit of ignition temperature decreases with the increase of particle size and of oxidizer concentration, but this decrease is smaller than the one obtained from experimental data. The curve of ignition limit versus diffusion coefficient has a maximum.

Another calculation method does not take into account the diffusion resistance of the oxide film and assumes the speed of reaction to depend on oxygen content in the medium.

Such an oxidizing regime occurs if the experimental limit of ignition temperature exceeds the boiling temperature of the oxide. From these experimental points the Arrhenius constants can be determined using Semenov conditions. At last the effects of the Kinetic and diffusion resistances to oxidation are compared using the estimated values of Arrhenius constants in the

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USSR

ZOLOTOV, E. A. and OZEROV, E. S., 11-ya Vses. Conf. po Vopr. Ispareniya, Goreniya i Gaz. Dinamiki Dispersn. Sistem, 1972

expression of speed of oxidation of the metal on the boundary between metal and oxide in the presence of diffusion resistance of the oxide film. It is shown that, in the absence of resistance on the ignition limit of a flying particle, the design temperature of the medium at the ignition instant is the lower the more the temperature of the medium decreases with time.

1/2 030

UNCLASSIFIED

PROCESSING DATE--11DEC70

TITLE--STUDY OF PRIMARY GAMMA RAYS OF ENERGIES HIGHER THAN 100 MEV BY
MEANS OF A SATELLITE CARRIED SPARK CHAMBER -U-
AUTHOR--(05)-VOLUBUEV, S.A., GALPER, A.M., KIRILLOVUGRIUMOV, V.G., LUCHKOV,
O.I., CZEKOV, I.V.
COUNTRY OF INFO--USSR, HUNGARY

SOURCE--INTERNATIONAL CONFERENCE ON COSMIC RAYS, 11TH, BUDAPEST, HUNGARY,
AUGUST 25-SEPTEMBER 4, 1969, PROCEEDINGS. VOLUME 1 ORIGIN AND GALACTIC
DATE PUBLISHED-----70

SUBJECT AREAS--ATMOSPHERIC SCIENCES, SPACE TECHNOLOGY

TOPIC TAGS--GAMMA RAY, SPARK CHAMBER, SPACECRAFT CARRIED EQUIPMENT,
ARTIFICIAL EARTH SATELLITE/UDCOSMOS 264 SATELLITE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY FICHE NO--FD70/605061/806 STEP NO--HU/2506/70/029/000/0127/0129

CIRC ACCESSION NO--AT0144431

UNCLASSIFIED

2/2 030

UNCLASSIFIED

PROCESSING DATE--11DEC70

-CIRC ACCESSION NO--AT0144431

ABSTRACT/EXTRACT--(U) GP-0-

ABSTRACT. IDENTIFICATION OF EVENTS
CORRESPONDING TO GAMMA RAY REGISTRATION AND ASSESSMENT OF THE GAMMA RAY
FLUX USING A DEVICE WITH A MULTIPATE WIDE GAP SPARK CHAMBER. AN ATTEMPT
HAS BEEN MADE TO ISOLATE GALACTIC GAMMA RAY FLUX. THE INSTRUMENT WAS
MOUNTED ON THE SATELLITE COSMOS 264. MORE THAN 100,000 STEREOPHOTOS
WERE TAKEN OF EVENTS IN THE SPARK CHAMBER.
INZHENERNO-FIZICHESKII INSTITUT, MOSCOW, USSR.

FACILITY: MOSKOVSKII

UNCLASSIFIED

USSR

UDC 621.165.533.6

ZIL'BERMAN, A. S., Candidate of Technical Sciences, LOPATITSKIY, A. O., Candidate of Technical Sciences, NAKHMAN, Yu. V., Candidate of Technical Sciences, VOL'FSON, I. M., Engineer, OZERNOV, I. A., Engineer, and PAKHOMOV, V. A., Engineer, Leningrad Metal Plant, Higher Technical Educational Institution at Leningrad

"Additional Energy Losses Through Periodical Unsteadiness of the Flow in Rotor Blades of Turbine Stages"

Moscow, Teploenergetika, No 10, Oct 73, pp 55-59

Abstract: The quantitative coupling of additional unsteady profile losses of energy in rotor blades with normal operation turbine stage parameters was experimentally investigated on stage models with more than twenty combinations of nozzle and rotor lattices of various types. A complex of factors affecting the change of profile energy losses in rotor lattices was analyzed. Based on generalized experimental data, a functional dependence of additional unsteady profile losses in rotor lattices ($\Delta \xi_r$) on a derived criterion of unsteadiness (γ) is suggested. The

USSR

ZIL'BERMAN, A. S., et al., Teploenergetika, No 10, Oct 73, pp 55-59

function $\Delta\zeta_r=F(Y)$ for all investigated stages is shown with and without accounting for deviations from the calculated regime. The additional losses increase essentially (from ~ 0 to $\sim 7.5\%$) within the limits $0.4 \cdot 10^{-2} < Y < 1.2 \cdot 10^{-2}$ and remain practically constant at further increase of Y . The derived functional dependence encompasses typical cases of stages of modern stationary turbines in the zone of moderate hub ratios. Two figures, one table, fifteen formulas, fourteen bibliographic references.

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- 114 -

165.533.6

1/2 014 UNCLASSIFIED PROCESSING DATE--090C170
TITLE--ACCURACY OF A DETERMINATION OF ATOM COORDINATES IN STRUCTURAL
NEUTRONOGRAPHY -U-
AUTHOR-(03)-DATT, I.D., RANNEV, N.V., OZEROV, R.P.
COUNTRY OF INFO--USSR
SOURCE--KRISTALLEOGRAFIYA 1970, 15(1), 25-30
DATE PUBLISHED-----70
SUBJECT AREAS--PHYSICS
TOPIC TAGS--CRYSTAL LATTICE STRUCTURE, NEUTRON DIFFRACTION, FOURIER SERIES
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1980/0159 STEP NO--UR/0070/70/015/001/0025/0030
CIRC ACCESSION NO--AP0048451
UNCLASSIFIED

2/2 014

UNCLASSIFIED

PROCESSING DATE--09OCT70

CIRC ACCESSION NO--AP0048451

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. FORMULAS FOR DETG. THE ACCURACY OF AT. COORDINATES ON THE FOURIER MAPS OF NUCLEAR D. ARE GIVEN FOR NEUTRON STRUCTURAL ANAL., TAKING INTO ACCOUNT THE INTERRUPTION OF THE FOURIER SERIES. THESE FORMULAS ARE DISCUSSED FOR THE CASE OF SPHERICALLY SYM. ATOMS IN CRYSTALS WITH MONOCLINIC OR ORTHORHOMBIC SYMMETRY.
FACILITY: NAUCH.-ISSLED. FIZ.-KHIM. INST. IM. KARPOVA, MOSCOW, USSR.

UNCLASSIFIED

1/2 013 UNCLASSIFIED PROCESSING DATE--23OCT70
TITLE--PREPARATION OF SHELL MOLDS BY USING ETHYL SILICATE 40 FOR
INVESTMENT CASTING -U-
AUTHOR--(05)-OZEROV, V.A., SAKODYNSKIY, K.I., SHPRITS, B.B., MOSEVA, L.I.,
BERKOVSKIY, V.M.
COUNTRY OF INFO--USSR
SOURCE--LITEINOE PROIZOD. 1970, 2, 14-15
DATE PUBLISHED-----70

SUBJECT AREAS--MATERIALS, MECH., IND., CIVIL AND MARINE ENGR
TOPIC TAGS--SHELL MOLD, INVESTMENT CASTING, ORGANIC SILICATE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1996/1735

STEP NO--UR/0128/70/002/000/0014/0015

CIRC ACCESSION NO--AP0118713

UNCLASSIFIED

2/2 013

UNCLASSIFIED

PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0118713

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE APPLICATION OF ET SILICATE-40 TO SHELL MOLDS MADE IT NECESSARY TO FOLLOW THE PROCESSES OCCURRING DURING THE PREPN. OF THE BONDING SOLN. PROPERTIES OF THE SOLN. ARE DEPENDENT ON THE CONTENT OF FREE H SUB2 O. CHROMATOLOG. OF HYDROLYZED ET SILICATE SOLN. IS USED TO DET. THE PROCESSES OCCURRING DURING HYDROLYSIS. ON THIS BASIS, IT IS POSSIBLE TO CHOOSE: AN OPTIMUM RECIPE, A MANNER OF HYDROLYSIS, A MEANS OF PREPN. OF SHELL MOLDS FOR EACH PROCESS VARIANT, AND A MEANS OF CONTROLLING THE COMPN. OF HYDROLYZED SOLNS. THE ADDN. OF ET SILICATE-40 DECREASED THE COST OF THE BONDING AGENT AND INCREASED THE PRODUCTIVITY OF SHELL MOLD PREPN.

UNCLASSIFIED

USSR

UDC 621.165+621.438.018

OGLOBLIN, G. A., PRUTKOVSKIY, Ye. N., PAKSHIN, A. V., and OZEROV, V. I.

"Investigation of the Efficiency of Steam-Gas Plants With Different Modes of Discharging Gases Into the Boiler"

Tr. Sev.-Zap. Zaach. Politekhn. In-ta [Works of the Northwestern Correspondence Polytechnic Institute], No 19, 1972, pp 36-40 (from Referativnyy Zhurnal, No 10, Oct 72. 49. Turbostroyeniye. Single Issue. Abstract No 10.49.28)

Translation: The suggested method simplifies the analysis of thermal efficiency of steam-gas plants (SGP) with discharging under conditions of partial loads. The efficiency reduction on load reduction of SGP becomes less intensive with increase of the gas temperature t_3 before the gas turbine, but at $t_3 > 1200^\circ\text{C}$ the load reduction effects an efficiency increase of SGP. The shielding of the combustion chamber of the gas stage by steam superheating heat surfaces increases the efficiency of SGP and increases it the more the lower the load of SGP. Two illustr., six biblio. refs.

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USSR

UDC 539.376+532.135

OZEROV, V. I., Kiev

"Study of Stressed State of Viscous-Elastic Hollow Thickwall Cylinder Under Conditions of Nonlinear Creep"

Problemy Prochnosti, No 3, 1972, pp 73-77.

Abstract: A long, hollow cylinder of a viscous-elastic material, enclosed in an elastic shell and subjected to unstable internal pressure is studied. It is assumed that the cylinder is in a flat deformed state. Solutions are produced for the cases of dependence and independence of elastic properties of the material on temperature. The solutions are illustrated with a numerical example. The time required to reach the unstable creep mode is indicated.

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USSR

UDC 629.7.036.3:536.46

(2)

GUSSAK, L. A., SAMOYLOV, I. B., SEMENOV, YE. S., MURASHEV, A. F., OZEROV, Ye. A., and STOTLAND, A. I.

"The Concluding Stage of the Turbulent Combustion of a Heterogeneous Mixture"

Moscow, Goreniye i Vzryv--Sbornik (Combustion and Explosion--Collection of Works), Nauka, 1972, pp 365-369 (from Referativnyy Zhurnal--Aviatsionnyye i Raketnyye Dvigateli, No 2, 1973, Abstract No 2.34.30. Resume)

Translation: This paper investigates a subsonic stream of gases in the nozzle zone of a model gas-turbine engine combustion chamber at temperatures from 700 to 1000°C. It is shown that the gas stream is not an equilibrium one, and consequently the thermodynamic approach may prove insufficient for determining the properties of such a stream. The work was conducted on an experimental combustion chamber in which diesel fuel was burned. The nonequilibrium state of the combustion products was established on the basis of ionization data of the gases and on the basis of their luminescence spectra. The mean temperature was simultaneously measured by thermocouples, and the composition of the gas-stream combustion products was determined. The obtained data permit the conclusion to be drawn that at regimes of 700 and 800°C, slow volume reactions of hydrocarbon burnout take place. The considerably large inequilibrium observed at regimes of 900 and 1000°C is caused mainly by removal of the

USSR

GUSSAK, L. A., Gorennye i Vzryv--Sbornik, Nauka, 1972, pp 365-369

flame foci from the primary zone of the combustion chamber and, partially, by afterburning reactions within the volume. An attempt is made at an experimental justification of a possible mechanism which leads to the appearance of foci with a slow volume reaction. 2 figures. 7 references.

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USSR

UDC 621.791:539.378.3:62-225:62.19

KULIK, S. G., KAMINSKIY, A. M., and OZEROV, Ye. A., Engineers, and
KVASNITSKIY, V. F., Candidate of Engineering Sciences

"Effectiveness of Nozzle Blades Made by Diffusion Welding Through an
Intermediate Layer"

Moscow, Svarochnoye Proizvodstvo, No 1, Jan 73, pp 32-34

Abstract: The purpose of this work was to investigate the efficiency of full-scale nozzle blades produced by vacuum-diffusion welding through an intermediate metal layer. The usual method of welding, in which the metals being joined are melted, such as high-alloy heat-resistant alloys EP99, VKh4A, El602, etc., results in the formation of hot cracks in the seam metal and heat-affected zone. For intermediate layers VPr7 and VPr11 brazing alloys and lKh18N9T steel were used which were 0.1 mm thick.

The welded blades were subjected to both thermal cycling and mechanical loads of 3000 cycles and 16 or 22 kgf/mm², respectively. Results of these tests showed that damage characteristic of thermal fatigue was not detected when the samples were subjected only to thermal cycling; however, when subjected
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USSR

KULIK, S. G., et al., Svarochnoye Proizvodstvo, No 1, Jan 73, pp 32-34

to both conditions the samples exhibited some cleavage. Of the three materials tested as intermediate welding strips, 1Kh18N9T steel showed the best results, with VPr7 brazing alloy coming in last. Five figures, 1 table, 4 bibliographic references.

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USSR

UDC 536.46:533.6

KOSSOY, A. A., OZEROV, Ye. S., SIRKUNEN, G. I.

"Combustion of a Low Boiling-Point Bundle of Particles of a Two-Component Metal-Containing Fuel"

V sb. Goreniye i vzryv (Combustion and Explosion -- Collection of Works), Moscow, "Nauka", 1972, pp 207-211 (from RZh-Mekhanika, No 3, Mar 73, Abstract No 3B936)

Translation: The problem of the ignition and combustion of a hydrocarbon bundle of a porous portion of a two-component, metal-containing fuel is discussed. It is assumed that heating of the portion is uniform along the radius: the hydrocarbon is evaporated from the surface that depresses into the portion with time; there are no reactions in the pores of the dry layer; the concentration and temperature fields in the resulting film and the concentration field in the dry layer are quasistationary. It is shown that the combustion limit of the hydrocarbon bundle is somewhat higher than the combustion limit of a drop of pure hydrocarbon; one can assume from approximate calculations of the combustion time of the bundle that the diffusion combustion regime is immediately following the introduction of particles into the heated gas medium. Authors' abstract.

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USSR

UDC: 662.58

ZOIOTAR', YE. A., and OZEROV, YE. S., Leningrad

"Calculating the Inflammability Limit of a Boron Particle"

Novosibirsk, Fizika Goreniya i Vzryva, Vol 9, No 4, Jul-Aug 73, pp 515-521

Abstract: The authors calculate the inflammability limit of a boron particle. Limiting cases of purely kinetic and purely diffusion oxidation regimes are considered. It is shown that the calculated limits exceed the experimental if the temperature of the medium is not considered. It is necessary to take into consideration temperature variability in calculating the characteristics of particle inflammability. This computational complication can be avoided in those cases where the fall in temperature along the flux is less than the confidence interval for the test measurement of the local temperature.

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USSR

UDC 536.46:533.6

YEZHOVSKIY, G. K., MOCHALOVA, A. S., OZEROV, Ye. S., YURINOV, A. A.

"Ignition and Combustion of Magnesium Particles"

V sb. Goreniye i vzryv (Combustion and Explosion -- Collection of Works), Moscow, "Nauka", 1972, pp 234-240 (from RZh-Mekhanika, No 3, Mar 73, Abstract No 3B939)

Translation: The results and methods of an experimental study of the characteristics of ignition and combustion of single suspended and flying particles of magnesium are presented. The kinetic constants of the heterogeneous oxidation reaction of magnesium in an aqueous vapor and in oxygen are calculated on the basis of the experimental data. The limiting combustion temperature and the induction time of a magnesium particle is calculated as a function of the various parameters of the medium with the aid of the constants obtained. A semiempirical formula is given for the constant of the rate of combustion of the magnesium particle as a function of the concentration of oxidizer in the medium and the pressure of the medium. 5 ref. Authors' abstract.

USSR

UDC 629.7.036.54.536.46

OZEROV, YE. S. and YURINOV, A. A.

"The Vapor-Phase Combustion of a Metal Particle in the Presence of Hydrogen"

Odessa, 11-ya Vses. Konf. po Vopr. Ispareniya, Goreniya i Gaz. Dinamiki Dispersn. Sistem; 1972 -- Sbornik (11-th All-Union Conference on Problems of the Evaporation, Combustion, and Gas Dynamics of Dispersed Systems, 1972 -- Collection of Works), 1972, pp 28-29 (from Referativnyy Zhurnal -- Aviatsionnyye i Raketnyye Dvigateli, No ., 1973, Abstract No 1.34.147 Resume)

Translation: It is experimentally established that in the presence of free hydrogen, the combustion rate increases with an increase of its content. This fact cannot be explained without taking into account the influence of hydrogen upon the coefficient of heat and component transfer. In the calculation scheme it is assumed that the metal vapors burn up completely on a spherical mathematical surface, and that the content of metal vapor and water vapor is here equal to zero. The formed oxide either condenses completely and remains on the combustion surface (variant I), or does not condense at all, but the heat of formation of the condensed oxide is released during the oxidation reaction (variant II). The calculation relationships of the combustion time to the content of hydrogen

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USSR

OZEROV, YE. S., and YURINOV, A. A., 11-th All-Union Conference on Problems of the Evaporation, Combustion, and Gas Dynamics of Dispersed Systems, 1972 -- Collection of Works, 1972, pp 28-29

and water vapor are in qualitative agreement, and are quantitatively close to the experimental results for magnesium particles burning in a mixture of water vapor with nitrogen and hydrogen. The possibilities of refining the calculation scheme are discussed on the basis of comparison of the results.

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USSR

UDC 523.165

VOLOBUYEV, S. A., GAL'PER, A. M., KIRILLOV-UGRYUMOV, V. G.,
LUCHKOV, B. I., OZEROV, YU. V.

"Observation of Gamma-Ray Quanta With an Energy Over 100 Mev From
the Region of the Crab Nebula"

Moscow, Investiya Akademii Nauk SSSR, Seriya Fizicheskaya, Vol 35,
No 12, Dec 71, pp 2463-2465

Abstract: The Cosmos-251, Cosmos-264, and Cosmos-280 artificial
earth satellites had a device to record gamma-ray quanta with
energies $E_\gamma \geq 100$ Mev. The device was a gamma-ray telescope
consisting of two scintillation counters and one directional
Cerenkov counter with a lead converter. In flights 1 and 3 the
viewing angle of the device took in the galactic plane. In
flight 1 the device viewed the region of space where the Crab
Nebula is found. A detailed analysis of the flight 1 data, con-
sisting in a study of the initial, intermediate, and final orbit
results, showed that excessive gamma radiation emanates from the
region bounded by the coordinates $\delta = 0 \pm 13^\circ$, $\alpha = 3.6 \pm 5^h$,

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OLOBUYEV, S. A. et al, Izvestiya Akademii Nauk SSSR, Seriya
Fizicheskaya, Vol 35, No 12, Dec 71, pp 2463-2465

which includes neither the Crab Nebula nor the galactic plane.
The excessive flux from this region is 2.0 ± 0.6 per interval.
It is suggested that this flux is due to a point source in the
region of the constellation Taurus rather than a line source
in the galactic plane.

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Heat, Combustion, Detonation

USSR

UDC 556.46:533.6

GUREVICH, M. A., OZEROVA, G. Ye., STEPANOV, A. M.

"Calculation of Flame Propagation Rate in a Gaseous Suspension of Particles of Solid Fuel"

V sb. Goreniye i vzryv (Combustion and Explosion -- Collection of Works), Moscow, "Nauka", 1972, pp 199-203 (from RZh-Mekhanika, No 3, Mar 73, Abstract No 3B968)

Translation: The problem of the propagation of a plane flame front in a one-dimensional flow of a suspension of singly fractioned particles of solid fuel in a gas containing an oxidizer is considered. It is assumed that heating of the cold mixture due to heat release from the reaction occurs only in the molecular heat conductivity of the gas. This rate of displacement of the original gas suspension at which longitudinal temperature fields and reagent concentrations become possible is taken as the flame propagation rate. The flame propagation rate is calculated as a function of the initial parameters by numerical methods. Authors' abstract.

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USSR

UDC 536.46:533.6

GUREVICH, M. A., OZEROVA, G. Ye., STEPANOV, A. M.

"Calculation of the Combustion Rate of Metal Particles Considering Oxide Condensation"

V sb. Goreniye i vzryv (Combustion and Explosion -- Collection of Works), Moscow, "Nauka", 1972, pp 175-181 (from RZh-Mekhanika, No 3, Mar 73, Abstract No 3B967)

Translation: The rate of steam-phase combustion of a fixed metal particle is calculated. At any point (including particles at the surface and on the combustion surface) the partial pressure of the oxide vapors is considered equal to the pressure of the saturated vapor at that temperature, which is established at a given point. It is shown that in the presence of oxide condensation in the space surrounding the particle that loss of matter is also unavoidable with volumetric sources of heat. It is assumed that the condensed oxide collects on the surface, the radius of which is determined from the condition that the mass velocity of the gas is equal to zero on it. The calculated combustion rate constants for magnesium particles are compared with experimental data of other authors. Authors' abstract.

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USSR

UDC:536.468

GUREVICH, M. A., OZEROVA, G. Ye., STEPANOV, A. M., Leningrad

"Heterogeneous Ignition of an Aluminum Particle in Oxygen and in Water Vapor"

Novosibirsk, Fizika Goreniya i Vzryva, Vol. 6, No. 3, Sep 70, pp. 326-335

Abstract: Experiments have determined that the limiting temperature of the medium for ignition of an aluminum particle first decreases with increasing particle size, then increases, approaching the fusion temperature of the oxide. This latter fact cannot be explained on the basis of the elementary theory of thermal explosion alone; some other factor, strongly influencing the process of heat and mass transfer between particle and medium must be considered. Analysis of experimental data indicates that this important factor is the oxide film covering the particle. Thus, two values of temperature of the medium are determined: the first from the limiting condition for autoignition of the particle, produced from the elementary theory of thermal explosion without considering the diffusion resistance of the oxide film, and the second on the basis of the condition of melting of the

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USSR

UDC:536.468

GUREVICH, M. A., OZEROVA, G. Ye., STEPANOV, A. M., Novosibirsk, Fizika Goreniya i Vzryva, Vol. 6, No. 3, Sep 70, pp. 326-335

oxide film. Keeping these in mind, the quasistable heat and mass transfer between a spherical aluminum particle and an oxygen-containing medium is studied. The kinetic constants are determined for the interaction of aluminum with the oxygen contained in the medium and with water vapor.

2/2

earth sci.

Yu. V. Vindimirov and A. I. Archakov. Perokislovyye i kisloty v biologicheskikh membranakh (Peroxidative oxidation of lipids in biological membranes). Moscow, 1972, 200 pages, 2000 copies, 1 r 80 k.

Zoologicheskoye problema Sibiri (Zoological Problems of Siberia). Collection. Biological Institute, Siberian Department. Novosibirsk, 1972, 546 pages, 1000 copies, 4 r 22 k.

Ishchionlunkon i glubokovodnyye ryby okeana (Ichthyoplankton and Abyssal Fishes of the Ocean). Collection. Institute of Oceanology imeni P. P. Shirshov. Moscow, 1972, 280 pages, 1100 copies, 1 r 71 k.

M. F. Lomonov and L. N. Nepomnyashchikh. Lezhnyye drevnyye novye drevnyye novarnov ym (The Lungs: The Lungs of the Lungs). Novosibirsk, 1972, 144 pages with ill., 1300 copies, 94 k.

G. I. Solov'yeva. Paraziticheskiye nematody drevnykh i sovremennykh rasteniy (Parasitic Nematodes of Ancient and Modern Plants). Zoological Institute and Institute of Biology of the Karelian Airlift. Leningrad, 1972, 104 pages with ill., 1000 copies, 89 k.

A. A. Kurisko, V. V. Mochalov, and A. K. Chupikov. Novoye v Sibiri (Horticulture in Siberia). Novosibirsk, 1972, 278 pages with ill., 25,000 copies, 1 r 29 k.

Earth Sciences

Dinamicheskaya protsessy razvitiya mashin (Dynamic Processes of Mining Machines). Collective Monograph. Institute of Mining imeni A. A. Skochinskoy. Moscow, 1972, 150 pages with ill., 1500 copies, 50 k.

I. M. Lomashov and R. Ye. Rozan. Mineral'nyye tsity (Mineral Cites of the Sea). Moscow, 1972, 120 pages, 13,000 copies, 37 k.

A. S. Sanyov, N. Kh. Lavrinov, and N. A. Ozerova. Geokhimiya i fizika (Geochemistry and Physics of the Geology of Ore Deposits, Petrography, Mineralogy, and Geochemistry). Moscow, 1972, 336 pages with ill., 1000 copies, 1 r 72 k.

Teoriya i praktika razvitiya mashin (Heat Exchange in Magmatogenic Processes). Institute of Geology and Geophysics of the Siberian Department. Novosibirsk, 1972, 124 pages, 1000 copies, 1 r.

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20 Oct 72

USSR

UDC 613.632:661.631

~~OZEROVA, V. V.~~, RUSAKOVA, G. S., and KORENEVSKAYA, S. P., Institute of Labor Hygiene and Occupational Diseases, Academy of Medical Sciences USSR

"The Effect of Yellow Phosphorus on the Human Organism Under Conditions of Present-Day Production of Phosphorus and of Salts Derived From It"

Moscow, Gigiyena Truda i Professional'nyye Zabolevaniya, Vol 15, No 11, Nov 71, pp 19-21

Abstract: A total of 337 workers exposed for 3-5 years to work in the production of yellow phosphorus were examined. They had been exposed to low concentrations of P at the maximum permissible level or slightly above it. Of the workers examined, 119 were evidently in good health, while the rest complained of headaches, pain in the region of the heart, low appetite, and recurrent pain in the region of the epigastrium and on the right side below the ribs. Disturbances of the functional state of the liver with respect to the pigment and/or protein function were found in a large number of cases, while marked symptoms of toxic hepatitis were generally absent. Densitographic investigation of the bone structure disclosed some changes in it that could be ascribed to the action of phosphorus. Determinations of Ca and phosphoric acid in the blood serum indicated that the content of Ca was normal in every case, while that of P in the blood serum was above normal in 38 cases.

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OZEROVA, Ye. F.

TECHNICAL TRANSLATION

PTIC-RT-23- 387-72

ENGLISH TITLE: NUMERICAL SOLUTION OF EQUATIONS IN THE TWO
PARAMETER THEORY OF THE BOUNDARY LAYER.

FOREIGN TITLE: ЧИСЛЕННОЕ РЕШЕНИЕ УРАВНЕНИЙ ДВУХ ПАРА-
МЕТРОВ ТЕОРИИ ПОГРАНИЧНОГО СЛОЯ

AUTHOR: Ye. F. Ozerova, L. N. Slonim

SOURCE: Not Applicable

Translated for PTIC by ACS1

NOTICE

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USSR

UDC 532.526

OZEROVA, YE. F., SIMUNI, L. M.

"Numerical Solution of the Equations of the Double Parametric Boundary Layer Theory"

Trudy Leningradskogo Politekhnicheskogo Instituta, Aerotermodinamika
(Works of the Leningrad Polytechnical Institute, Aerothermodynamics),
No 313, 1970, pp 44-53

Translation: The equations of double-parametric boundary layer theory are solved numerically. The partial differential equation is solved by the method of finite-differences with respect to an implicit difference scheme, and the results obtained serve as the initial data. Automatic selection of stepsize is used to insure the required accuracy. There is 1 table and a 3-entry bibliography.

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USSR

UDC 669.293.018.44/45

OZEROVA, Ye. I., MEL'NIKOVA, L. V.

"Metallographic Study of Microirregularities of Certain Niobium-Based Alloys"

Nauchn. Tr. N-i. i Projektn. In-t Redkomet. Prom-sti [Scientific Works of Scientific Research and Planning Institute for the Rare Metals Industry], 1971, Vol. 32, pp.28-34. (Translated from Referativnyy Zhurnal Metallurgiya, No. 5, 1971, Abstract No. 5 1735 by the authors).

Translation: Nb Alloys show a tendency toward formation of low-angle polygonization boundaries in the cast, deformed, and annealed states. 4 figs.

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acc. Nr. **AA0108180** - Abstracting Service:
CHEMICAL ABST. 6-70

Ref. Code
UR 0482

135549t Steel. Ozerskii, A. D.; Solntsev, Yu. P.; Galkin, M. F.; Myagkov, V. V.; Vladimirov, N. E.; Yurasov, S. A.; Nikonov, V. F.; Yakovenko, A. F.; Parfenovskii, A. B.; Kunitsa, S. S. U.S.S.R. 260,899 (Cl. C 22c), 06 Jan 1970, Appl. 02 Dec 1968; From *Otkrytiya, Izobret., Prom. Obratzy. Tovarnye Znaki* 1970, 47(4), 81. Steel with improved mech, properties consisted of: C 0.40-0.45, Si 0.5-0.7; Mn 0.5-0.8, Cr 1.5-1.8, V 0.3-0.5, Mo 0.9-1.2, impurities of S < 0.03, and P < 0.03%, and Fe the remainder. MSCL

REEL/FRAME

19891846

18 CX

USSR

UDC 620.193.43

PENYAGINA, O. P., OZERYANAYA, I. N., SMIRNOV, M. V., SHIBANOV, B. S., and SHAMANOVA, N. D., Academy of Sciences USSR, Ural Branch, Institute of Electrochemistry

"Passivation of Iron and Nickel in Molten Carbonates"

Moscow, Zashchita Metallov, Vol 8, No 3, May-Jun 72, pp 312-314

Abstract: A study was made of the passivation of NO nickel and Armco iron in carbonate melts. Significant passivation of nickel is observed in the ternary eutectic mixture of lithium, sodium, potassium carbonates at 800°. At 600° there is appreciable inhibition only of the dissolution of electrodes electro-polished or working in contact with electronegative titanium. At 800° the phase composition of the film on the electrode changes as a result of the insertion of lithium oxide in the crystal lattice of nickelous oxide (solid solution $\text{Li}_2\text{O} \cdot \text{NiO}$). The corrosion rate and steady-state potentials do not depend on the cation composition of the melt. The influence of the nature of the melt is noted in the anodic polarization of nickel under potentiostatic conditions.

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USSR

PENYAGINA, O. P., et al., Zashchita Metallov, Vol 8, No 3, May-Jun 72, pp 312-314

The kinetic characteristics of Armco iron passivation were studied in a eutectic mixture of lithium, sodium, and potassium carbonates (0.43 : 0.32 : 0.25) at 600°. In contrast to nickel, the rate of anodic dissolution of iron at this temperature is high from the very start of polarization. The process is accompanied by intensive covering of the surface of the metal with products of its interaction with ions of the melt, and it reaches a maximum in the region of sufficiently negative potential values and then a sharp transition of the electrode to the passive state is observed. The iron electrodes after the test were coated with a film, X-ray diffraction analysis of which shows the formation of compounds of the LiFeO_2 and Fe_3O_4 spinel type on the surface of the iron during anodic polarization. Films with such a structure as a rule possess high protective properties.

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USSR

UDC 669.295:620.193.54:669.787

MANUKHINA, T. I., OZERYANAYA, I. N., and SMIRNOV, M. V.

"Influence of Oxygen on the Corrosion of Titanium in Molten Carbonates of Alkali Metals"

Tr. In-ta elektrokhimii Ural'skiy fil. AN SSSR (Works of the Institute of Electrochemistry, Ural Branch of the Academy of Sciences USSR, 1970, vyp. 15, pp 109-113 (from RZh-Metallurgiya, No 12, Dec 70, Abstract No 12 1828 by Ya. ULANOVSKIY)

Translation: By measuring standard potentials the authors studied the interaction of Ti, obtained by the thermal decomposition of its iodide, with a molten eutectic mixture of Li, Na, and K carbonates under an atmosphere of a mixture of CO₂ and O₂ in a ratio of 9 : 1.4 : 1.7 : 3 and air above the melt at a temperature of 600°. During the first moment of the interaction, electrochemical reduction of C takes place, Ti activity drops significantly owing to the saturation of its surface with oxygen, which sharply shifts the Ti potential in the direction of positive values, and the reduction of C ceases. The introduction of O₂ into the gaseous phase promotes a shift of the Ti potential in the direction of positive values. The formation of oxide phases

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USSR

MANUKHINA, T. I., et al, Tr. In-ta elektrokhimii Ural'skiy fil. AN SSSR (Works of the Institute of Electrochemistry, Ural Branch of the Academy of Sciences USSR), 1970, vyp. 15, pp 109-113 (from RZh-Metallurgiya, No 12, Dec 70, Abstract No 12 1828 by Ya. ULANOVSKIY)

on the surface during the reaction prevents the corrosion of metal in the melt from proceeding further. Bibliography of 11 titles.

2/2

1/2 010 UNCLASSIFIED PROCESSING DATE--27NOV70
TITLE--THE LATEST MAP OF LENINGRAD -U-
AUTHOR--OZHEGOV, A.
COUNTRY OF INFO--USSR
SOURCE--STOSIALISTICHESKAYA INDUSTRIYA, SEPTEMBER 12, 1970, P 4, COLS 3-5
DATE PUBLISHED--12SEP70
SUBJECT AREAS--EARTH SCIENCES AND OCEANOGRAPHY
TOPIC TAGS--GEOGRAPHIC LOCATION, MAP
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--3008/1671 STEP NO--UR/0533/70/000/000/0004/0004
CIRC ACCESSION NO--AN0138647
UNCLASSIFIED

2/2 010

UNCLASSIFIED

PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AN0138647

ABSTRACT/EXTRACT--(U) GP-O- ABSTRACT. ACCORDING TO THE ARTICLE, THE MAP OF LENINGRAD PUBLISHED THREE YEARS AGO IS ALREADY OBSOLETE. IT DOES NOT SHOW A DISTRICT LOCATED NORTH OF THE MURINSKIY CREEK, THE SOSNOVAYA POLYANA, WITH THE POPULATION ESTIMATED AT TENS OF THOUSANDS. THE ISLANDS VOL, NYU, VASIL, YEVSIIY AND DEKABRISTOV HAVE BEEN CONNECTED BY EARTHEN CAUSEWAYS AND EVENTUALLY WILL BECOME A NEW CITY OF 140,000. HOUSING PROJECT FOR THE AREA SOUTH OF THE PROSPEKT SLAVY WILL BE STARTED IN 1972 IN THE FRUNZE DISTRICT OF LENINGRAD.

UNCLASSIFIED

Adsorption

USSR

UDC 536.421.4

YEVSEYEV, A. M., and OZHEGOV, P. I., Chair of Physical Chemistry

"Probability of the Penetration of Monoatomic Particles Through An Adsorbed Layer as a Function of the Kinetic Energy of the Bombarding Particle"

Moscow, Vestnik Moskovskogo Universiteta, Vol 12, No 2, Mar-Apr 71, pp 153-156

Abstract: Molecular dynamics calculations have shown that the probability of penetration $\bar{O}$ of a molecular beam through an adsorbed layer is practically independent of the initial velocity of the particles until the absolute value of the velocity component v_z exceeds some specific magnitude. With further increase in the kinetic energy of the bombarding particles, the probability of penetration through adsorbed layer increases sharply, approaching unity (injection effect).

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USSR

UDC: 539.182.8

CHEPELEVA, I. V., LAZUKIN, V. N., OZHEREL'YEV, B. V., and
DEMBOVSKIY, S. A.

"Electron Paramagnetic Resonance of Fe^{3+} Ions in Chalcogenide
Glasses As_2Se_3 and TlAsSe_2 "

Moscow, Doklady Akademii nauk SSSR, vol 204, No 2, 1972, pp 324-
327

Abstract: This paper describes experiments performed to investigate the electron paramagnetic resonance of Fe^{3+} ions in As_2Se_3 chalcogenide glasses in the wavelength range of 3.2 cm using an RE-1301 spectrometer at 293 and 77° K. Observations were also made with a superheterodyne spectrometer at 4.2° K. Four groups of electron paramagnetic resonance spectra are arranged according to similarities in shape, effective g-factor, and temperature dependence. Samples of the spectra are shown, and a curve of the magnetic susceptibility of the chalcogenide glasses as a function of the temperature is plotted. It is found that the spectra of the four groups can be explained by the spin Hamiltonian. The authors thank N. Ye. Kask for observing the spectra at 4.2° K, and V. N. Prudnikov for investigating the magnetic susceptibility.

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USSR

UDC: 628.33:538.122

KHOLODNYI, V. A., and OZHIGANOV, I. N., Engineers, Donetsk

"Intensification of Metallurgical Plant Wastewater Clarification by Magnetic Field Treatment"

Moscow, Vodosnabzheniye i Sanitarnaya Tekhnika, No 3, 1970, pp 1-4

Abstract: The Industrial Wastewater Purification Division of the Donetsk Branch of VNIPIChermetenergoochistka /All-Union Research and Planning Institute for Ferrous Metallurgy Power Purification/ during 1967-1968 developed and studied a method for magnetic wastewater coagulation. The method consists essentially in pretreating the wastewater in a magnetic field before it goes to the sedimentation tank. A series of studies involving the wastewater of blast-furnace and converter-shop scrubbing, the wash water of waste-heat boilers of open hearth furnaces, and the wastewater of rolling mills confirms the effectiveness and advisability of using the magnetic coagulation method for intensifying the clarification of wastewater containing ferromagnetic impurities at little capital or operating cost.

1/1

USSR

UDC 681.3.001:518.5

KOBCHIKOV, A. V., KULEYEV, KH. F., OZHIGANOV, L. I.

"Two Implementations of the Tabular-Analytical Method of Calculating Functions"

Tr. Kazan. aviats. in-ta (Works of Kazan' Aviation Institute), 1970, vyp. 104, pp 59-63 (from RZh-Avtomatika, Telemekhanika i vychislitel'naya tekhnika, No 2, Feb 71, Abstract No 2335)

Translation: The possibilities of using the method of tabular-analytical representation of functions in digital computers are discussed. Here, the function $y = f(x)$ is represented in the form $y = \phi(x) + \delta(x)$; where $y(x)$ is an approximating function sufficiently simply calculatable or obtainable schematically, and $\delta(x)$ is the correction function stored in the long-term memory in the form of correction tables. There are 2 illustrations, 1 table, and a 3-entry bibliography.

1/1

USSR

UDC 518.5.681.3.06

KOBCHIKOV, A. V., KULEYEV, Ya. F., OZHIGANOV, L. I.

"Two Realizations of the Tabular-analytic Method of Calculation of Functions"

Tr. Kazansk. Aviats. In-ta [Works of Kazan' Aviation Institute], No. 104, 1970, pp 59-63 (Translated from Referativnyy Zhurnal Kibernetika, No. 4, April, 1971, Abstract No. 4 V674 by V. Zhdanov).

Translation: The use of a tabular-analytic method for calculation of a binary logarithm and trigonometric functions is studied, based on the representation of the function $y=f(x)$ as $y=\phi(x)+\delta(x)$, where $p(x)$ is an approximating function, rather easy to calculate or produce with a circuit, while $\delta(x)$ is a correcting function stored in a memory unit. For the function $y=\log_2 x$, $0 < x < 1$, we can select $\phi(x)$ as

$$\phi(m^*) = p - 1 + m^*; \quad x = m^{2^p}.$$

where $m^*=2m-1$, while $\delta(m^*)=\log_2(1+m^*)-m^*$. A block diagram of the arithmetic unit producing this algorithm is presented, its operation studied and an estimate given of the accuracy and speed produced in multiplication and division. For the trigonometric functions

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USSR

UDC 518.5.681.3.06

KOBCHIKOV, A. V., KULEYEV, Ya. F., OZHIGANOV, L. I., Tr. Kazansk. Aviats. In-ta, No. 104, 1970, pp 59-63.

$$y = \sin \frac{\pi}{2} x, x = \frac{2}{\pi} \arcsin y; 0 < x < 1,$$

the approximating function can be selected as $\phi(x)=x$ with correction function $\delta(x) = \sin \frac{\pi}{2} x - x$, the maximum value of which is $\delta_{\max} = 0.215$, allowing the volume of tables to be reduced in comparison with the volume of tables of complete values of functions by about 4.6 times.

2/2

OZHIGANOV, O. V.

*Delivered during
Metalurgy 57's 58's
50 March 1973*

STRUCTURAL RECRYSTALLIZATION OF STEELS DURING
FAST AND SLOW HEATING

UDC 669.017.3:620.186.5

G. N. Bogacheva, V. P. Drod, A. V. Ozhiganov, V. M. Schastlivtsev,
and V. M. Zhurav, Institute of the Physics of Metals, U.S.S.R.
Academy of Sciences, submitted to press 1 February 1972. pages 1198-1205

The effect of small additions of elements forming carbides that are nearly insoluble, the temperature of preliminary hardening, tempering after hardening, and soaking at various temperatures in the austenitic region on the structural mechanism of the recrystallization of steel during heating, accomplished with various speeds, was investigated. It was demonstrated that the factors indicated do not have the same effect on the manifestation of the structural succession, expressed in the restoration of the initial grains of austenite after completion of the phase transformation in fast heating (200--400° per second) and slow heating (1--20 per minute). In connection with this it is proposed that these two cases of structural succession are caused by different mechanisms of the formation of austenite.

At definite heating conditions of a preliminarily superheated and hardened steel, the phenomenon of structural succession is observed, which lies in the presence of a crystallographic bond of the grains of austenite formed after completion of the phase transformation with the initial grains of austenite, which existed before the first hardening. The structural succession is manifested most sharply at very fast or at very slow heating of the hardened steel: in both cases, a restoration of the initial grains of austenite occurs with respect to magnitude and with respect to crystallographic orientation [1--3].

In reference [4] the assumption was expressed that the phenomenon of structural succession is caused by the well-understood mechanism of the formation of austenite: in fast heating a diffusionless mechanism is realized, and in slow heating the so-called homogeneous mechanism of diffusion formation of austenite. However, according to [5], for the majority of the steels investigated at the speeds of heating that can be accomplished in practice, the formation of austenite occurs by the diffusion mechanism. This conclusion, in essence, presumes the identity of restoration mechanisms of the grain in both cases. It is of interest to analyze the effect of various factors on the appearance of the structural sequence in fast and slow heating and, if their effect is unambiguous, according to [4], we may assume that these two cases of structural sequence are caused, all the same, by various mechanisms of the formation of austenite.

In this article the effect of the chemical composition, preliminary hardening (temperature, tempering after preliminary hardening, and the regime of cooling in the austenite region before preliminary hardening on the structure picture of the recrystallization in repeated heating of the hardened steel.

Industrial steels were investigated, the composition of which is indicated in the table. Some experiments were conducted on steels with an increased content of carbon. Repeated heating after preliminary hardening was accomplished at rates of 1-20 per minute (slow heating) and 200-400 per second (fast heating). Since the results of x-ray structural and metallographic methods in this case agree well [6, 7], only the metallographic method was used.

1/2 015 UNCLASSIFIED PROCESSING DATE--18SEP70
TITLE--IMPROVING TRANSFORMER STEEL PROPERTIES DURING SLAG TREATMENT IN
VACUUM -U-
AUTHOR-(02)-OZHIGANOV, V.S., LEVANTO, M.A.
COUNTRY OF INFO--USSR
SOURCE--STAL' 1970, 30(1) 34-5
DATE PUBLISHED-----70
SUBJECT AREAS--MATERIALS
TOPIC TAGS--TRANSFORMER STEEL, STEEL PRODUCTION, METALLURGIC STEEL, VACUUM
TECHNIQUE
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1983/0295 STEP NO--UR/0133/70/030/001/0034/0035
CIRC ACCESSION NO--AP0053280
UNCLASSIFIED

2/2 015

UNCLASSIFIED

PROCESSING DATE--18SEP70

CIRC ACCESSION NO--AP0053280

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. RESIDUAL S CONTENT CAN BE LOWERED TO 0.002PERCENT BY TAPPING WHITE FINISHING SLAG AND METAL OF A HEAT TOGETHER IN A BULL LADLE AND REPOURING THEM IN A TEEMING LADLE, OR BY TAPPING 90-5PERCENT OF REDUCING SLAG AND 10-15 METAL IN A 1ST TEEMING LADLE, AND THE REST OF THE METAL IN THE 2ND ONE. THE 1ST LADLE IS PLACED IN A VACUUM CHAMBER WHICH IS THEN EVACUATED TO 1-3 TORR, AND THE CONTENTS OF THE 2ND LADLE IS TEEMED IN THE 1ST WITHIN 7-10 MIN. THIS PRACTICE LOWERS THE NONMETALLIC AND GAS CONTENT AND INCREASES THE PROPORTION OF LOW WATT LOSS SHEETS. THE VACUUM TREATMENT IS MORE EFFECTIVE THAN THE REPOURING.

UNCLASSIFIED

USSR

UDC 621.355.2.035.2:620.197.3

OZHIGANOVA, N. N., AGUF, I. A., DASOYAN, M. A., MILYUTIN, N. N.

"Potentiodynamic Study of the Effect of Certain Inhibitors on the Electrochemical Behavior of a Lead Electrode"

Sb. rabot po khim. istochnikam toka. N.-1. akkumulyator. in-t (Collected Works on Chemical Current Sources. Scientific Research Battery Institute), 1971, vyp. 6, 22-27 (from RZh-Khimiya, No 6 (II), Jun 72, Abstract No 6L242)

Translation: A study was made of the effect of three self-discharge inhibitors: α -naphthol, sulfanol and α -nitroso- β -naphthol on the kinetics of processes taking place on the negative electrode of a lead battery. The potentiometric curves taken in a broad range of potentials of the given electrodes are presented. The theoretical interpretation of these curves permitted some information to be obtained on the mechanism of the effect of the indicated surface-active substance on the cathode and anode behavior in H_2SO_4 .

1/1

1/2 020 UNCLASSIFIED PROCESSING DATE--20NOV70
TITLE--POTENTIODYNAMIC METHOD OF STUDYING THE EFFECT OF SURFACE ACTIVE
SUBSTANCES ON THE OPERATION OF THE NEGATIVE ELECTRODE OF A LEAD
AUTHOR--(02)-OZHIGANOVA, N.N., AGUF, I.A.
COUNTRY OF INFO--USSR
SOURCE--ELEKTRIKHIMIYA. FEB. 1970, 6, (2), 239-242
DATE PUBLISHED---FEB70
SUBJECT AREAS--MATERIALS, CHEMISTRY
TOPIC TAGS--SURFACE ACTIVE AGENT, LEAD, METAL ELECTRODE, ELECTROCHEMISTRY
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--2000/0301 STEP NO--UR/0364/70/006/002/0239/0242
CIRC ACCESSION NO--AP0124060

UNCLASSIFIED

2/2 020

UNCLASSIFIED

PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AP0124060

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE MECHANISM RESPONSIBLE FOR THE INFLUENCE OF SURFACE ACTIVE SUBSTANCES ON THE ELECTROCHEMICAL BEHAVIOUR OF THE NEGATIVE ELECTRODE IN A PB ACCUMULATOR WAS STUDIED BY THE POTENTIODYNAMIC METHOD. DIFFERENT ADDITIVES WERE DISTINGUISHED BY DIFFERENT EFFECTS ON THE SURFACE TEXTURE OF THE PB ELECTRODE (ITS LOOSENESS, PARTICLE SIZE, ETC.), AND THESE DIFFERENCES WERE REFLECTED CLEARLY IN THE FORM OF THE POTENTIODYNAMIC CHARACTERISTICS. THE METHOD EMPLOYED ENABLED CHANGES IN BOTH THE CATHODIC AND THE ANODIC BEHAVIOUR OF THE PB ELECTRODES DUE TO THE ADSORPTION OF ORGANIC ADDITIVES TO BE DETERMINED UNAMBIGUOUSLY IN A SINGLE EXPERIMENT.

UNCLASSIFIED

USSR

UDC 539.219.3

BLINKIN, A. M., OZHIGOV, L. S., MIROSHNICHENKO, YU. T., KHRIPKOV, YU. F., and SEMENENKO, V. YE., Kharkov State University imeni A. M. Gor'kiy

"Diffusion in Composite Materials"

Sverdlovsk, Fizika Metallov i Metallovedeniye, Vol 35, No 4, 1973, pp 870-872

Abstract: The effect of the fiber-matrix boundary interface and excess concentration of non-equilibrium defects, formed in the reinforced metal due to thermal stresses, on diffusion parameters in composite materials of the core-shell type was investigated for Cu-W and Cu-Mo composites in which copper was the core and tungsten and molybdenum were the shells. Tungsten wire with diameters of 1.0, 1.5, and 2.0 mm was placed in the center of a crucible and fused with copper of electron-beam purity. Sample diameter was 6 mm. The Cu-W composite consisted of molybdenum shells 0.5 and 1.0 mm thick and an external diameter of 9 mm, inside of which the copper was melted. A eutectic composition Al-Al₃Ni was produced by directed crystallization and drawing rates of 25, 40, 90, 360, and 720 mm/hr. The nickel and aluminum were added according to a method described in a previous work of the authors. The ratios of diffusion coefficients for nickel (D/D_{Cu}) in the composites to the coefficient of diffusion in pure copper were plotted against the volume content (in %) of the reinforcing

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USSR

BLINKIN, A. M., et al, Sverdlovsk, Fizika Metallov i Metallovedeniye, Vol 35, No 4, 1973, pp 870-872

phase at 700°C. From the graph it was determined that the diffusion coefficient ratio increases with increased content of the reinforcing phase with the effect much more intense in the Cu-Mo composite. The diffusion activation energy for pure copper was 54.8 kcal/mole, while for copper, reinforced with molybdenum shells 0.5 and 1.0 mm thick, these energies were 43.3 and 35.2 kcal/mole, respectively. From experimental data it was found that the diffusion coefficients increase with decreased fiber diameter and are maximum in the composite produced at a drawing rate of 720 mm/hr. These results allowed the assumption to be made that the diffusion coefficients are increased with decreased fiber diameter (for one and the same content of reinforcing phase content) due to the increased length of the matrix-fiber boundary interface. 2 figures, 5 bibliographic references.

2/2

- 10 -

1/2 024 UNCLASSIFIED PROCESSING DATE--04DEC70
TITLE--SOME PHYSICO CHEMICAL PROPERTIES OF ALLOYS IN THE SECTION WITH 90
WT. PERCENT TUNGSTEN OF THE TUNGSTEN, MOLYBDENUM, NIOBIUM, TANTALUM
AUTHOR--(02)-PRYAKHINA, L.I., OZHIMKOVA, O.V.
COUNTRY OF INFO--USSR
SOURCE--IZVEST. AKAD. NAUK SSSR, METALLY, MAR.-APR. 1970, (2), 224-227.
DATE PUBLISHED-----70
SUBJECT AREAS--MATERIALS
TOPIC TAGS--PHYSICAL CHEMISTRY PROPERTY, TUNGSTEN ALLOY, TANTALUM ALLOY,
NIOBIUM ALLOY, MOLYBDENUM ALLOY, SOLID SOLUTION, HIGH TEMPERATURE
EFFECT, METAL HARDNESS
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--3003/1442 STEP NO--UR/0370/70/000/002/0224/0227
CIRC ACCESSION NO--AP0130375
UNCLASSIFIED

2/2 024

UNCLASSIFIED

PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0130375

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A NUMBER OF PHYSICO CHEMICAL PROPERTIES OF W, MO, NB, TA ALLOYS CONTG. W. 90 WT. PERCENT WERE STUDIED. THUS THE DENSITY VARIED BETWEEN 17 AND 18.5 G-CM PRIME3, DEPENDING ON THE EXACT COMPOSITION. MICROANALYSIS OF THE ALLOYS CONFIRMED THAT THEY HAD SOLID SOLUTION STRUCTURES. THE REPLACEMENT OF MO BY NB AND-OR TA RAISED THE HARDNESS AT 20 DEGREESC FROM 340 TO 400 KG-MM PRIME2. THREE COMPONENT W,NB,TA ALLOYS HAD THE GREATEST HOT HARDNESS AT 1100 DEGREESC.

UNCLASSIFIED

1/2 025 UNCLASSIFIED PROCESSING DATE--27NOV70
TITLE--INDIRECT PARALLEL PUMPING AND BIRESONANCE FREQUENCY DOUBLING IN
ANTIFERROMAGNETIC SUBSTANCES -U-
AUTHOR--OZHOGIN, V.I.
COUNTRY OF INFO--USSR
SOURCE--ZHURNAL EKSPERIMENTAL'NOY I TEORETICHESKOY FIZIKI, 1970, VOL 58,
NR 6, PP 2079-2089
DATE PUBLISHED-----70
SUBJECT AREAS--PHYSICS
TOPIC TAGS--ANTIFERROMAGNETIC MATERIAL, CRYSTAL, SPIN WAVE, MAGNETIC
PUMPING, ANISOTROPY
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--2000/2235 STEP NO--UR/0056/70/058/006/2079/2089
CIRC ACCESSION NO--AP0125813
UNCLASSIFIED

2/2 025

UNCLASSIFIED

PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AP0125813

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THREE MAGNON NONLINEAR PHENOMENA IN ANTIFERROMAGNETS WITH AN EASY PLANE ANISOTROPY (AFEP) ARE CALCULATED BY CLASSICAL METHODS FOR THE CASE OF PARALLEL ORIENTATION OF THE A. C. (H) AND D. C. (H SUB0) MAGNETIC FIELDS APPLIED IN THE EASY PLANE OF THE CRYSTAL. IT IS SHOWN THAT FOR ARBITRARY PUMPING FREQUENCIES PARAMETRIC TRANSFORMATION OF ELECTROMAGNETIC ENERGY INTO SPIN WAVE ENERGY OF THE LOWER BRANCH OCCURS VIA OSCILLATIONS IN AN OTHER BRANCH OF THE SPECTRUM. DUE TO THIS THE THRESHOLD OCCURS VIA OSCILLATIONS IN AN OTHER BRANCH OF THE SPECTRUM. DUE TO THIS THE THRESHOLD FIELD FOR APPEARANCE OF INSTABILITY IN THE FIRST BRANCH MAY BE DESCRIBED BY EXPRESSION (20) WHICH IS VALID FOR ANY PUMPING FREQUENCY AND WHICH IS OF A RESONANCE NATURE. FREQUENCY DOUBLING IS ALSO DETERMINED FOR AN AFEP LOCATED IN A MAGNETIC FIELD H SUB0 OF SUCH A MAGNITUDE THAT THE FIRST (OMEGA SUB10) FREQUENCY OF THE AFMR IS EQUAL EXACTLY TO A HALF OF THE SECOND (OMEGA SUB20). IT TURNS OUT THAT IN THIS CASE THE EFFICIENCY FOR TRANSFORMATION OF AN ELECTROMAGNETIC FIELD OF FREQUENCY OMEGA SUB10 INTO A FIELD OF FREQUENCY OMEGA SUB20 MAY BE MUCH GREATER THAN THAT ATTAINED WITH A HELP OF A FERRITE, ESPECIALLY AT HIGH FREQUENCIES.

UNCLASSIFIED

Acc. Nr:

AP0048297

Abstracting Service:
CHEMICAL ABST. 5/70

Ref. Code:

4R0181

94652a Magnetic properties of gadolinium, neodymium, and praseodymium aluminates with perovskite structure. Sturavoi-
tor, A. T.; Orzhogin, V. A.; Bokov, V. A.; Zonn, Z. N.; Lari-
nov, G. M. (Inst. Poluprov., Leningrad, USSR). Fiz. Tverd.
Tela 1970, 12(1), 301-3 (Russ). Results are given of the mea-
surements of the temp. dependences of inverse susceptibility in
static fields and the magnetization curves in pulsed fields of
≤ 230 kOe at 4.2 and 1.7°K of single-crystal aluminates of Gd,
Nd, and Pr. GdAlO₃ is an antiferromagnet with Neel temp.

$T_N = 3.87^\circ\text{K}$ and the axis of antiferromagnetism directed along
the orthorhombic axis [010]. Satn. of the magnetization curve
of GdAlO₃ in a field of 42 kOe at 1.7°K corresponds to disruption
of antiferromagnetic ordering. The ferromagnetic moment of
Gd³⁺ is 8.57 μB. The magnetic susceptibility of NdAlO₃ at 80-
300°K follows the Curie-Weiss law and antiferromagnetic order-
ing is present. For PrAlO₃, the susceptibility depends on temp.
in a complex manner.

A. Libackyj }

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REEL/FRAME
19792019

USSR

UDC 534-8

AREF'YEV, I. M., ZAYTSEV, G. I., KRIVOKHIZHA, S. V., OZHOGIN, YA. P.,
SHREYNER, B. YA.

"Dispersion of the Velocity of Sound in Aniline-Nitrobenzene Solutions"

Kratk. soobshecheniya po fiz. (Brief Communications on Physics), 1970, No 7,
pp 37-41 (from RZh-Fizika, No 12(II), Dec 70, Abstract No 12Zh805)

Translation: The dispersion of sound in an aniline-nitrobenzene solution was investigated to observe its negative value, which is possible for associated solutions. At a temperature of 20°C the velocity of hypersound at a frequency of $5.5 \cdot 10^9$ Hz was determined in terms of the displacement of the Mandelstam-Brillouin components in the spectra of the thermal scattering of light which was excited by an He-Ne laser at an angle of 90°. The velocity of ultrasound was measured at a frequency of $2.8 \cdot 10^6$ Hz. It turned out that negative dispersion is absent in the solution. V. Ye. Gordeyev.

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1:2 015 UNCLASSIFIED PROCESSING DATE--11SEP70
TITLE--DEFECTS IN SEMICONTINUOUSLY CAST PIPE -U-
AUTHOR--KRIVOSHEYEV, A.YE., OZIMIN, YU.S., KHAKHALIN, B.D., DAVYDOV, V.A.
COUNTRY OF INFO--USSR
SOURCE--LITEINOE PROIZVOD. 1970, (1) 7-9
DATE PUBLISHED-----70
SUBJECT AREAS--MECH., IND., CIVIL AND MARINE ENGR, MATERIALS
TOPIC TAGS--METAL CRACKING, METAL CASTING, CONTINUOUS CASTING, METAL PIPE
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1988/1319 STEP NO--UR/0128/70/000/001/0007/0009
CIRC ACCESSION NO--AP0106096
UNCLASSIFIED

2/2 015

UNCLASSIFIED

PROCESSING DATE--11SEP70

CIRC ACCESSION NO--AP0106096
ABSTRACT/EXTRACT--(U) GP-0-

ABSTRACT. WITH THE PURPOSE TO ELUCIDATE THE CRACK FORMATION IN TITLE CASTING THE STUDY WAS CARRIED OUT ON THE TEMP. FIELD ACROSS THE SECTION OF THE TITLE PIPE DURING ITS SOLIDIFICATION. THE TEMP. OF CAST IRON (C 3.5-3.7, SI 2.0-2.3, MN 0.6-0.8, P 0.2-0.3, AND S SMALLER THAN OR EQUAL TO 0.1 WT. PERCENT) BEFORE CASTING WAS 1280-1300DEGREES, AND THE WITHDRAWAL RATE WAS 1.0-1.1 AND 0.7-0.8 M-MIN. DIAM. OF PIPES WAS 500 AND 700 MM. THREE ZONES OF SOLIDIFICATION WERE DISTINGUISHED: (1) PERIOD OF EXPANSION PRIOR TO SHRINKAGE, (PES), (ZONE OF TIGHT CONTACT OF THE CASTING ALONG 40PERCENT OF MOLD HEIGHT), (2) PERIOD OF FOUNDRY PREPEARLITE SHRINKAGE (ZONE OF THE GAP BETWEEN THE CASTING AND MOLD (PFPS), AND (3) FINISHING PERIOD OF FULL SHRINKAGE, (FPCS) (ZONE OF COOLING OUTSIDE OF THE MOLD). EXPERIENCE AT FOUNDRIES HAS SHOWN THAT CAST IRONS WITH HIGH VALUES FOR PES AND LOW VALUES FOR PFPS HAVE PRACTICALLY NO CRACK FORMATION. BEST RESULTS WERE PRODUCED WITH EUTECTOIDAL AND TRANSEUTECTOIDAL CAST IRON IN PARTICULAR (C 3.7-3.8, AND SI 2.2-2.3 WT. PERCENT). ONE OF THE CAUSES OF CRACK FORMATION IS THE FORMATION OF A TOO THIN PRIMARY CRUST ON CRYSTO. METAL WITH NONUNIFORM FORMATION OF A GAP BETWEEN THE PIPE SURFACE AND THE MOLD. THE SUPERHEATING OF THE CAST IRON MAY HAVE COUNTERACTING EFFECTS BOTH FAVORING AND INHIBITING THE CRACK FORMATION.

UNCLASSIFIED

USSR

UDC 616-008.922.1.04-022.9-003.96-07:616.831-008.92-074

SIMANOVSKIY, L. N., OZIRSKAYA, Ye. V., and REZNIK, L. V., Institute of Evolutionary Physiology and Biochemistry imeni I. M. Sechenov, Academy of Sciences USSR, Leningrad

"Metabolic Changes in the Rat Brain During Adaptation to Hypoxia"

Moscow, Voprosy Meditsinskoy Khimii, Vol 19, No 2, Mar/Apr 73, pp 156-162

Abstract: The investigation was conducted on white rats kept in a barochamber at a pO_2 equivalent at 2,000-7,600 m altitude for 3-90 days. In cortical and medullary mitochondria, oxidation, phosphorylation, and the P/O ratio decreased on the 3d-10th days and returned to normal on the 30th day. On the 60th and 90th days, oxidation and phosphorylation increased, but the P/O ratio was somewhat reduced. Electron microscopy revealed no morphological changes in the mitochondria. In the hyaloplasm of cortical and medullary neurons, the rate of glycogenolysis and glycolysis increased on the 3rd to 30th days and returned to normal on the 60th day. On the 90th day, there was a second though small increase in glycogenolysis. In brain tissue homogenates, malate and isocitrate dehydrogenase activity was reduced on the 10th day and returned to normal on the 20th day. Acetylcholine esterase activity gradually but continuously decreased, 1/2

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SIMANOVSKIY, L. N., et al., Voprosy Meditsinskoy Khimii, Vol 19, No 2,
Mar/Apr 73, pp 156-162

with the fall becoming statistically significant as of the 30th day. Thus,
during adaptation to hypoxia, definite metabolic changes take place in the brain
tissue, which evidently increase the neurons' resistance to protracted hypoxia.

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UDC 591.88.086.3:611.813.1

USSR

MASLOVA, M. N., OZIRSKAYA, Ye. V. and REZNIK, L. V., Laboratory of Applied Biochemistry, Institute of Evolutionary Physiology and Biochemistry, Academy of Sciences USSR, Leningrad

"Changes in Rat Cerebral Cortex During Hyperoxia (Comparison of Functional Biochemical and Morphological Data)"

Leningrad, Tsitologiya, Vol 15, No 1, 1973, pp 16-21

Abstract: Wistar rats were exposed to pure oxygen at 3.5-6 atm for 30-40 min until the initial, compensated stage of O₂ toxicity developed in one group and the convulsive stage in another group. Their functional state was evaluated by the time it took them to climb a net inclined at 45° (orientation reaction). After immediate decapitation, acetylcholinesterase activity in brain tissue was determined, and slices of sensory and motor cortex and of liver tissue were examined electron microscopically. In the initial stage of O₂ toxicity, the orientation reaction was accelerated by 63% and acetylcholinesterase activity increased by 10%. No morphological alterations were observed in brain cells, but liver cell mitochondria were moderately enlarged. All the changes fall into the category of a nonspecific reaction to stress, such as may be induced by moderate hypoxia or intramuscular injection of 30 mcg of 1/2

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USSR

MASLOVA, M. N., et al., Tsitologiya, Vol 15, No 1, 1973, pp 16-21

adrenaline. In the clonic convulsive stage, the orientation reaction was absent and acetylcholinesterase activity significantly reduced. Although the structure of nerve processes was normal, many mitochondria in cell bodies were enlarged and deformed, while the optical density of the matrix was reduced. All the changes were reversible and associated with increased activity. In the tonic convulsive stage, irreversible pathology developed: almost all mitochondria in the bodies and processes of neurons and in liver cells were swollen and round, with just a few or no cristas remaining. Good correlation with acetylcholinesterase was observed in all cases. However, even in the most severe stage of O_2 toxicity, the reaction was nonspecific and identical with that induced by intraperitoneal injection of 6 mcg of picrotoxin.

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1/2 011 UNCLASSIFIED PROCESSING DATE--16OCT70
TITLE--SOME CHARACTERISTICS OF TURBULENT ENERGY TRANSPORT AND
TRANSFORMATION IN THE OCEAN -U-
AUTHOR-(03)-OZMIDOV, R.V., BELYAYEV, V.S., YAMPOLSKIY, A.D.
COUNTRY OF INFO--USSR
SOURCE--MOSCOW, IZVESTIYA AKADEMII NAUK SSSR, FIZIKA ATMOSFERY I OKEANA,
VOL VI, NO 3, 1970, PP285-291
DATE PUBLISHED-----70
SUBJECT AREAS--EARTH SCIENCES AND OCEANOGRAPHY
TOPIC TAGS--OCEANOGRAPHIC BUDY, FLOW VELOCITY, OCEAN DEPTH, OCEAN
CIRCULATION
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1996/1163 STEP NO--UR/0362/70/006/003/0285/0291
CIRC ACCESSION NO--AP0118259
UNCLASSIFIED

2/2 011

UNCLASSIFIED

PROCESSING DATE--16OCT70

CIRC ACCESSION NO--AP0118259

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE RECIPROCAL TRANSFORMATION OF THE ENERGY OF THE AVERAGED AND FLUCTUATING MOTIONS IN THE OCEAN A IS COMPUTED ON THE BASIS OF DATA ON VELOCITIES MEASURED DURING TWO MONTHS OF OBSERVATIONS IN THE ARABIAN SEA. THE MEASUREMENTS WERE MADE AT SEVEN BUOY STATIONS WITH 11 OBSERVATION HORIZONS. THE COMPUTATIONS GAVE VALUES A EQUALS $0.5 \text{ MINUS } 2.5 \text{ TIMES } 10 \text{ PRIME NEGATIVE } 4 \text{ G-CM TIMES SEC PRIME } 3$ FOR THE UPPER LAYERS BUT IN THE DEEPER LAYERS A IS NEGATIVE. THE DEPENDENCE OF A ON DEPTH AND THE PERIOD FOR AVERAGING OF THE VELOCITY COMPONENTS WAS DETERMINED. THESE A VALUES MAKE IT POSSIBLE TO DETECT A NUMBER OF INTERESTING CHARACTERISTICS OF THE "INTERNAL STRUCTURE" OF THE VELOCITY FIELD IN THE OCEAN AND DETERMINE THE TRANSFORMATION OF ENERGY IN THE SPACE OF WAVE NUMBERS AND VERTICALLY. FOR EXAMPLE, IT WAS FOUND THAT WITH AN INCREASE IN DEPTH LARGESCALE MOTIONS ARE FILTERED OUT AND IN THE LOWER LYING LAYERS OF THE OCEAN ENERGY IS TRANSPORTED ONLY TO SMALLER AND SMALLER VELOCITY FORMATIONS. THE ABSOLUTE ENERGY FLUX CHANGES REGULARLY WITH DEPTH AND WITH THE SCALE USED IN SEPARATING THE VELOCITY FIELD INTO AVERAGED AND FLUCTUATING COMPONENTS. IT IS EMPHASIZED THAT THE DETERMINED VALUES CAN BE CHARACTERISTIC ONLY FOR THIS PARTICULAR OBSERVATION REGION AND IT IS RISKY TO APPLY THEM TO OTHER OCEAN AREAS. FACILITY: INSTITUTE OF OCEANOLOGY.

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